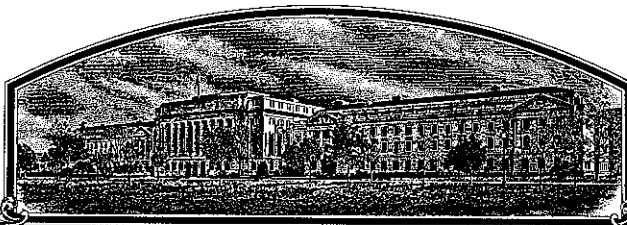


No.

9200244



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Minnesota Agricultural Experiment Station

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS SEED OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS REQUIRED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'Parker'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this *30th* day of November in the year of our Lord one thousand nine hundred and ninety-four.

Attest:

Kenneth H. Evans
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

William E. Rouse
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

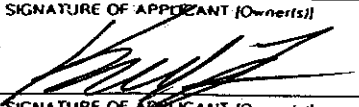
1. NAME OF APPLICANT(S) (as it is to appear on the Certificate) Minnesota Agricultural Experiment Station		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO. M84-916	3. VARIETY NAME Parker
4. ADDRESS (street and no. or R.F.D. no., city, state, and ZIP) University of Minnesota 220 Coffey Hall 1420 Eckles Avenue St. Paul, MN 55108		5. PHONE (include area code) (612) 625-4211	
6. GENUS AND SPECIES NAME Glycine max		7. FAMILY NAME (Botanical) Leguminosae	
8. CROP KIND NAME (Common Name) Soybean		9. DATE OF DETERMINATION November 12, 1991	
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) State Agricultural Experiment Station			
11. IF INCORPORATED, GIVE STATE OF INCORPORATION		12. DATE OF INCORPORATION	
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS J.H. Orf Department of Agronomy and Plant Genetics, 411 Borlaug Hall University of Minnesota 1991 Upper Buford Circle St. Paul, MN 55108 PHONE (include area code): (612) 625-8275			
14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow INSTRUCTIONS on reverse) <ul style="list-style-type: none"> a. <input checked="" type="checkbox"/> Exhibit A, Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B, Novelty Statement. c. <input checked="" type="checkbox"/> Exhibit C, Objective Description of Variety. d. <input type="checkbox"/> Exhibit D, Additional Description of Variety. e. <input checked="" type="checkbox"/> Exhibit E, Statement of the Basis of Applicant's Ownership. f. <input checked="" type="checkbox"/> Seed Sample (2,500 viable untreated seeds). Date Seed Sample mailed to Plant Variety Protection Office _____ g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,150) made payable to "Treasurer of the United States." 			
15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See section 83(a) of the Plant Variety Protection Act.) <input checked="" type="checkbox"/> YES (If "YES," answer items 16 and 17 below) <input type="checkbox"/> NO (If "NO," skip to item 18 below)			
16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input checked="" type="checkbox"/> FOUNDATION <input checked="" type="checkbox"/> REGISTERED <input checked="" type="checkbox"/> CERTIFIED	
18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.? <input type="checkbox"/> YES (If "YES," through <input type="checkbox"/> Plant Variety Protection Act <input type="checkbox"/> Patent Act. Give date: _____) <input checked="" type="checkbox"/> NO			
19. HAS THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETING IN THE U.S. OR OTHER COUNTRIES? <input type="checkbox"/> YES (If "YES," give names of countries and dates) <input checked="" type="checkbox"/> NO			
20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable. The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in section 41, and is entitled to protection under the provisions of section 42 of the Plant Variety Protection Act. Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.			
SIGNATURE OF APPLICANT (Owner(s)) 		CAPACITY OR TITLE ASSOCIATE DIRECTOR	
SIGNATURE OF APPLICANT (Owner(s))		CAPACITY OR TITLE	
DATE 8-18-92		DATE	

Exhibit A

Origin and Breeding History of Parker Soybean

'Parker' soybean traces to the F_5 progeny of a F_4 plant harvested from a population that had been advanced by a modified single seed descent procedure from the cross A79-136012 x Dawson. A79-136012 is a selection from the cross Pride B216 x Land O'Lakes 4102. Pride B216 has the pedigree Corsoy x Wayne. Land O'Lakes 4102 has the pedigree (Mack x [Wayne x (Clark x Adams)]) x Cutler. Bulk seed of the F_5 row was designated M84-916 and was used for yield testing in the F_6 (1985). Subsequent tests of strain M84-916 were conducted in Minnesota in the F_7 (1986) and F_8 (1987). In the F_8 generation 50 typical plants were harvested individually to initiate purification for observable traits including reaction to race 1 of phytophthora root rot. In the F_9 (1988), M84-916 was entered in the maturity group I Preliminary Regional Soybean Test. In 1988, twenty-nine plant rows were grown for purification purposes. Thirteen rows appeared uniform for plant and seed characteristics including resistance to race 1 of phytophthora root rot, therefore, seed of these rows were bulked to provide breeder's seed. In the F_{10} (1989), F_{11} (1990) and F_{12} (1991), M84-916 was tested in the Uniform Regional Soybean Test Maturity Group I. In the F_{10} (1989) all small increase of breeders seed was made. In the F_{11} (1990) Foundation seed was produced by the Minnesota Foundation seed organization. The foundation seed produced was shared with other states for increase. In the F_{12} (1991) seed was increased and M84-916 was approved for release as Parker. On February 14, 1992, seed of Parker was released to registered and/or certified growers in Minnesota, South Dakota and Wisconsin. No off-type variants were noted in the seed multiplication process of Parker over three generations. This variety breeds true and meets certification standards.

Exhibit B

Novelty Statement

'Parker' soybean is most similar to 'Hardin' soybean. Parker is approximately one day earlier than Hardin. Parker has about seven percent higher yield potential than Hardin. Parker is about one inch taller than Hardin. Seed of Parker is about 2.6 grams per 100 seeds larger than Hardin. Parker has about one half percent lower protein and about one half percent higher oil than Hardin.

Data comparing Parker and Hardin is taken from the Uniform Soybean Test I, Northern States 1990-91 (a total of 28 tests for most traits).

Variety	Date mature	Yield bu/a	Height inches	Lodging score	Seed	Seed	Protein %	Oil %
					Quality score	Size g/100		
Parker	9/17	54.7	38	2.5	2.0	18.6	40.1	21.1
Hardin	9/18	51.1	37	2.4	2.0	16.0	40.6	20.7

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MARYLAND 20705

FORM APPROVED: UMB NO. 0581-0056

EXHIBIT C
(Soybean)

OBJECTIVE DESCRIPTION OF VARIETY
SOYBEAN (*Glycine max* L.)

NAME OF APPLICANT(S) Minnesota Agricultural Experiment Station	TEMPORARY DESIGNATION M84-916	VARIETY NAME Parker
ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code) University of Minnesota 220 Coffey Hall, 1420 Eckles Avenue St. Paul, MN 55108		FOR OFFICIAL USE ONLY PVPO NUMBER 9200244

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g.,). Starred characters ★ are considered fundamental to an adequate soybean variety description. Other characters should be described when information is available.

1. SEED SHAPE:



1 = Spherical (L/W, L/T, and T/W ratios = < 1.2)
3 = Elongate (L/T ratio > 1.2; T/W = < 1.2)

2 = Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2)
4 = Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)

★ 2. SEED COAT COLOR: (Mature Seed)

1 = Yellow 2 = Green 3 = Brown 4 = Black 5 = Other (Specify) _____

3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

1 = Dull ('Corsoy 79'; 'Braxton') 2 = Shiny ('Nebsoy'; 'Gasoy 17')

★ 4. SEED SIZE: (Mature Seed)

Grams per 100 seeds

★ 5. HILUM COLOR: (Mature Seed)

1 = Buff 2 = Yellow 3 = Brown 4 = Gray 5 = Imperfect Black 6 = Black 7 = Other (Specify) _____

★ 6. COTYLEDON COLOR: (Mature Seed)

1 = Yellow 2 = Green

★ 7. SEED PROTEIN PEROXIDASE ACTIVITY:

1 = Low 2 = High

★ 8. SEED PROTEIN ELECTROPHORETIC BAND:

1 = Type A (SP1^a) 2 = Type B (SP1^b)

★ 9. HYPOCOTYL COLOR:

1 = Green only ('Evans'; 'Davis') 2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')
3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')
4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

★ 10. LEAFLET SHAPE:

1 = Lanceolate 2 = Oval 3 = Ovate 4 = Other (Specify) _____

11. LEAFLET SIZE:

☐ 21 = Small ('Amsoy 71'; 'A5312')
3 = Large ('Crawford'; 'Tracy')

2 = Medium ('Corsoy 79'; 'Gasoy 17')

12. LEAF COLOR:

☐ 21 = Light Green ('Weber'; 'York')
3 = Dark Green ('Gnome'; 'Tracy')

2 = Medium Green ('Corsoy 79'; 'Braxton')

★ 13. FLOWER COLOR:

☐ 1

1 = White

2 = Purple

3 = White with purple throat

★ 14. POD COLOR:

☐ 2

1 = Tan

2 = Brown

3 = Black

★ 15. PLANT PUBESCENCE COLOR:

☐ 1

1 = Gray

2 = Brown (Tawny)

16. PLANT TYPES:

☐ 31 = Slender ('Essex'; 'Amsoy 71')
3 = Bushy ('Gnome'; 'Govan')

2 = Intermediate ('Amcor'; 'Braxton')

★ 17. PLANT HABIT:

☐ 3

1 = Determinate ('Gnome'; 'Braxton')

2 = Semi-Determinate ('Will')

3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

★ 18. MATURITY GROUP:

☐ 0 ☐ 41 = 000
9 = VI

2 = 00

10 = VII

3 = 0

11 = VIII

4 = I

12 = IX

5 = II

13 = X

6 = III

7 = IV

8 = V

★ 19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

BACTERIAL DISEASES:

★

☐ 0Bacterial Pustule (*Xanthomonas phaseoli* var. *sojensis*)

★

☐ 0Bacterial Blight (*Pseudomonas glycinea*)

★

☐ 0Wildfire (*Pseudomonas tabaci*)

FUNGAL DISEASES:

★

☐ 0Brown Spot (*Septoria glycines*)Frogeye Leaf Spot (*Cercospora sojina*)

★

☐ 0

Race 1

☐ 0

Race 2

☐

Race 3

☐

Race 4

☐

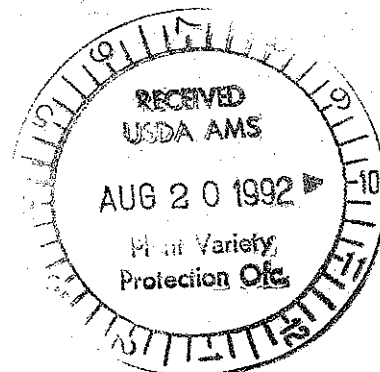
Race 5

☐

Other (Specify)

☐ 0Target Spot (*Corynespora cassicola*)☐ 0Downy Mildew (*Peronospora trifoliorum* var. *manshurica*)☐ 0Powdery Mildew (*Microsphaera diffusa*)

★

☐ 1Brown Stem Rot (*Cephalosporium gregatum*)☐ 0Stem Canker (*Diaporthe phaseolorum* var. *caulivora*)

19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

FUNGAL DISEASES: (Continued)

- ★ ☒ 1 Pod and Stem Blight (*Diaporthe phaseolorum* var. *sojae*)
- ☒ 1 Purple Seed Stain (*Cercospora kikuchii*)
- ☒ 0 Rhizoctonia Root Rot (*Rhizoctonia solani*)
- Phytophthora Rot (*Phytophthora megasperma* var. *sojae*)
- ★ ☒ 2 Race 1 ☒ 0 Race 2 ☒ 0 Race 3 ☒ 1 Race 4 ☒ 0 Race 5 ☒ 0 Race 6 ☒ 0 Race 7
- ☒ 0 Race 8 ☒ 0 Race 9 ☐ Other (Specify) _____

VIRAL DISEASES:

- ☒ 0 Bud Blight (Tobacco Ringspot Virus)
- ☒ 0 Yellow Mosaic (Bean Yellow Mosaic Virus)
- ★ ☒ 0 Cowpea Mosaic (Cowpea Chlorotic Virus)
- ☒ 0 Pod Mottle (Bean Pod Mottle Virus)
- ★ ☒ 0 Seed Mottle (Soybean Mosaic Virus)

NEMATODE DISEASES:

- Soybean Cyst Nematode (*Heterodera glycines*)
- ★ ☒ 0 Race 1 ☒ 0 Race 2 ☒ 1 Race 3 ☒ 0 Race 4 ☐ Other (Specify) _____
- ☒ 0 Lance Nematode (*Hoplolaimus Colombus*)
- ★ ☒ 0 Southern Root Knot Nematode (*Meloidogyne incognita*)
- ★ ☒ 0 Northern Root Knot Nematode (*Meloidogyne Hapla*)
- ☒ 0 Peanut Root Knot Nematode (*Meloidogyne arenaria*)
- ☒ 0 Reniform Nematode (*Rotylenchulus reniformis*)
- ☐ OTHER DISEASE NOT ON FORM (Specify): _____

20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ★ ☒ 1 Iron Chlorosis on Calcareous Soil
- ☐ Other (Specify) _____

21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ☒ 0 Mexican Bean Beetle (*Epilachna varivestis*)
- ☒ 0 Potato Leaf Hopper (*Empoasca fabae*)
- ☒ 0 Other (Specify) _____

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape	Corsoy 79	Seed Coat Luster	Hardin
Leaf Shape	Sturdy	Seed Size	Sturdy
Leaf Color	Sturdy	Seed Shape	Sturdy
Leaf Size	Sturdy	Seedling Pigmentation	Sibley

23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS/POD
				CM Width	CM Length	% Protein	% Oil		
Parker Submitted	122	2.5	97	84	120	40.1	21.1	18.6	2.4
Hardin Name of Similar Variety	123	2.4	95	76	114	40.6	20.7	16.0	2.4

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A₂ in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.

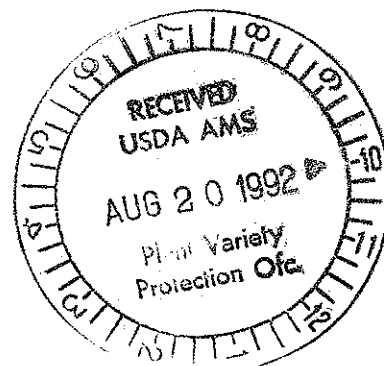


Exhibit E

Statement of the Basis of Ownership

The Minnesota Agricultural Experiment Station is the owner of Parker soybean. The Minnesota Agricultural Experiment Station of the University of Minnesota is the employer of the breeder who developed Parker.